

Applicant: Stager et al.
Application No.: 10/772,017

Amendments to Drawings:

The attached three (3) sheets of drawings include formal drawings for Figures 1-4. These sheets replace the original sheets including Figures 1-4. No changes to the Figures have been made.

REMARKS

After the foregoing amendment, claims 1-8, 10-12, 16-19, 21-24, and 27 are currently pending in this application. Claims 9, 13, 20, 25, and 26 have been canceled without prejudice. Claims 1, 4, 12, and 23 have been amended to clarify the operation of the present invention. Claims 2, 3, 6, 7, and 10 have been amended to clarify the terminology used as a result of the changes to claim 1 and to correct dependencies. Claims 16-18, 21, and 22 have been amended to clarify the terminology used as a result of the changes to claim 12. Claim 24 has been amended to clarify a potential antecedent basis issue. Applicants submit that no new matter has been introduced into the application by these amendments.

Telephonic Interview

The Examiner is thanked for granting telephonic interviews with the Applicants' representative on December 8, 2006; December 21, 2006; and January 5, 2007. During the interviews, the pending claims were discussed in view of the cited references. Proposed language to be incorporated into claim amendments was also discussed; however, no agreement as to the allowability of the proposed amendments was reached.

Objections to the Drawings

The Examiner objected to the drawings because the drawings did not meet certain formal drawing requirements. Replacement sheets including Figures 1-4, which have been revised to comply with the formal drawing requirements, are submitted herewith. The withdrawal of the objection to the drawings is respectfully requested.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,032,126 to Zalewski et al. (hereinafter "Zalewski '126") in view of U.S. Patent Application Publication No. 2005/0010529 to Zalewski et al. (hereinafter "Zalewski '529").

Zalewski '126 relates to a method and apparatus for creating a dynamic storage pool for data recovery (Abstract). Zalewski '126 utilizes two types of replication: mirrors for physical replication and snapshots for logical replication (column 2, lines 20-39). The replication policies are dynamic and adaptable, based on application server deployment (column 3, lines 21-29 and 36-45).

To recover data, a user selects a recovery template based on "the type of disruption involved, physical, logical or combined" which permits the user to select a data recovery template that is used to recover data in the event of a failure (see

column 3, line 55 to column 4, line 50). Data recovery is performed only if a disruption occurs (column 5, lines 34-57).

Zalewski '529 relates to a method and apparatus for building a data protection scheme, which protects data from physical and logical failures use a replication policy and covers various points in time of a data set (Abstract). Zalewski '529 describes the process of creating data protection policies (paragraph 0017) and implementing those policies (paragraph 0019).

Applicants respectfully disagree with the Examiner's characterization of Zalewski '126 and Zalewski '529 as applied to the present application.

First, the Examiner argues that Zalewski '126 teaches a continuous data protection system. Zalewski '126 does not literally disclose such a system; the only time the word "continuous" appears in Zalewski '126 is at column 2, line 24, and is in reference to the process of creating a mirror of a volume, which requires "copying data continuously in real time". Nor does Zalewski '126 conceptually disclose a continuous data protection system.

Second, the Examiner argues that both Zalewski '126 and Zalewski '529 teach the "any point in time" concept as recited in the present invention. Zalewski '126 does not describe the "any point in time" concept. Zalewski '126 states that "[s]trategies for handling logical disruptions include using snapshot techniques to generate periodic PIT replications to assist in rolling back to previous stable states."

(Column 2, lines 28-30, emphasis added.) In paragraphs 0005 and 0011, Zalewski '529 teaches that a replication policy may replicate data "at various points" in a data set's history. Paragraph 0017 teaches that according to a logical error policy, "any number of PIT replications of source data [may be] stored in a variety of memory storage mediums, each data replication spanning a particular time period." (Emphasis added.) Paragraph 0019 teaches that a data set may not be completely replicated at a given point in time. According to these teachings, both Zalewski '126 and Zalewski '529 clearly do not support the concept of "any point in time" as recited in the present invention.

Third, the Examiner argues that Zalewski '126 teaches the step of choosing a location on which the snapshot is to be located. While Zalewski '126 permits a user to select a snapshot to be recovered (see e.g., column 4, lines 9-13 and column 5, lines 45-57), Zalewski '126 does not hint or suggest that the location on which the snapshot is to be loaded can be chosen. As described in Zalewski '126 at column 3, lines 55-59:

Depending on the protection policy schema put into place by the user (using any given number of protection policy templates), the most appropriate available storage volume is provisioned to the data from application server 105.

The location of where the data is stored is selected, but when the data is recovered, only a template to recover the data is selected (column 5, lines 45-57). Zalewski '126 does not discuss where the recovered data is placed. In fact, Zalewski

'126 states that "the present invention provides the user flexibility with regards to how, what, and when data is recovered" (column 4, lines 18-20, emphasis added), but does not address "where".

Fourth, the Examiner argues that Zalewski '126 teaches the step of creating a point in time (PIT) map for the selected snapshot. Zalewski '126 contains no discussion of PIT maps as the term is used in the present application. Zalewski '126 only discusses PIT copies in a general sense. The section of Zalewski '126 cited by the Examiner (column 3, line 55 to column 4, line 50) describes the various protection policy schema available to a user. The only discussion of "mapping" in this section relates to the "data replication and recovery management system utilizing dynamically mapped storage pools" (column 4, lines 30-32).

Fifth, the Examiner argues that Zalewski '126 teaches the step of loading the selected snapshot at the chosen location. As discussed above, Zalewski '126 does not teach selecting a location on which the snapshot is to be loaded, and therefore cannot teach the step of loading the selected snapshot at the selected location. The sections of Zalewski '126 relied on by the Examiner generally describes the concept of snapshots (column 2, lines 28-39) and performing data recovery using templates (column 4, lines 30-50 and column 5, lines 11-28). The use of the "provisioned volume" in Zalewski '126 (mentioned at column 6, lines 13-25, in the section cited by the Examiner) is restricted to selecting a location on which the data is to be stored

(see, e.g., column 3, lines 55-58). Zalewski '126 does not discuss where the stored data is to be recovered to by the templates.

Based on the foregoing arguments, neither Zalewski '126 nor Zalewski '529 teach all of the features of the present application nor do the cited references contain a hint or suggestion relating to those features. Therefore, a combination of Zalewski '126 and Zalewski '529 would not lead one skilled in the art to the invention recited in independent claims 1, 12, and 23 of the present application.

Claims 2-8, 10, 11, 16-19, 21, 22, 24, and 27 are dependent upon claims 1, 12, and 23, respectively, which the Applicants believe are allowable over the cited prior art of record for the same reasons provided above.

Based on the arguments presented above, withdrawal of the 35 U.S.C. §103(a) rejection of claims 1-27 is respectfully requested.

Conclusion


If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

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In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1-8, 10-12, 16-19, 21-24, and 27, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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Enclosures (3 sheets of formal drawings)